

AMENDMENTS TO THE CLAIMS

1-19. (Withdrawn)

20. (Amended) An ablation system comprising:
a power control system having a patient-return-electrode receptacle, a data port and an electrophysiological (EP) monitoring system receptacle, the power control system adapted to output power signals;
a patient return electrode adapted to connect to the patient-return-electrode receptacle;
a computer adapted to connect to the data port;
an EP monitoring system adapted to connect to the EP-monitoring-system receptacle; and
a processor programmed to prevent the output of power signals in the absence of the verification of any one of the following:
10 verify connection between the power control system and the patient return electrode;
 verify adequate contact between the patient return electrode and the biological tissue;
 verify connection between the power control system and the computer; and
15 verify connection between the power control system and the EP monitoring system; and,
 after successful verifications, allow the power control system to output power signals.

21. (Original) The ablation system of claim 20 wherein the patient-return-electrode receptacle comprises a switch which, in the absence of an inserted connector, is open and the processor verifies connection between the power control system and the patient return electrode
5 by being further adapted to:
 output a test signal to the input of the switch; and
 monitor the output of the switch for the signal.

22. (Original) The ablation system of claim 21 wherein the processor is further adapted to generate an error indication when the switch is open.

23. (Original) The ablation system of claim 20 wherein the patient return electrode comprises at least two electrically isolated return pads and the processor verifies adequate contact between the patient return electrode and the biological tissue by being further adapted to:

measure the impedance between the return pads; and

compare the impedance to an expected value.

24. (Original) The ablation system of claim 23 wherein the processor is further adapted to generate an error indication when the measured impedance is greater than the expected value.

25. (Original) The ablation system of claim 20 wherein the patient return electrode comprises at least two electrically isolated return pads and the processor verifies adequate contact between the patient return electrode and the biological tissue by being further adapted to:

periodically sample the impedance between the return pads;

determine an average impedance based on the sequence of measured impedances;

calculate the standard deviation of the impedance values relative to the average value; and

generate an error indication when the standard deviation is high.

26. (Original) The ablation system of claim 20 wherein the data port comprises a switch which, in the absence of an inserted connector, is open and the processor verifies connection between the power control system and the computer by being further adapted to:

output a test signal to the input of the switch; and

monitor the output of the switch for the signal.

27. (Original) The ablation system of claim 26 wherein the processor is further adapted to generate an error indication when the switch is open.

28. (Original) The ablation system of claim 20 wherein the processor verifies connection between the power control system and the computer by being further adapted to poll the computer, wait for an answer and verify the presence of appropriate software in the computer.

29. (Original) The ablation system of claim 28 wherein the processor is further adapted to generate an error indication when an answer is not received or the appropriate software is not present.

30. (Original) The ablation system of claim 20 wherein the power control system has a multiple pin EP-monitoring-system receptacle and the EP monitoring system comprises an EP recorder having a plurality of inputs and a display for displaying ECG signals and the processor verifies connection between the power control system and the EP monitoring system by being
5 further adapted to:

output a signal to each of the EP-monitoring-system receptacle pins in sequence; and
wait for confirmation that the signals were displayed on the EP recorder display in proper sequence.

31. (Original) The ablation system of claim 20 wherein the processor is adapted to
begin verification upon receipt of an initiation signal.

32. (Original) The ablation system of claim 31 wherein the power control system comprises a switch which when activated provides the initiation signal to the processor.

33. (Original) The ablation system of claim 32 wherein the power control system comprises a catheter receptacle and the switch is adapted to be activated upon insertion of a connector in the catheter receptacle.